

described by Richard, and above in Dr. Wight's species, belongs to a complete but imperfectly observed female flower, I cannot draw the conclusion at which Endlicher has arrived, that *Langsdorffia* belongs to the same section of the order as *Helosis* and *Scybalium*, both with two styles and a bilocular ovary: it appears to me to be more intimately related to *Balanophora*, and this relation is confirmed by the female flowers of *B. indica* being placed on glandular partial receptacles, as in *Balanophora fungosa* of Forster. From *Balanophora*, however, *Langsdorffia* is readily recognised, by the males and females being on different, not on the same receptacles, and by the ovaria being stalked, so that the ovary, considered along with the stalk and style, may almost be called fusiform. If, Endlicher, as I incline to think, has described his genus *Cynopsole* from imperfect materials, and if Blume's *Balanophora elongata*, and Wight's *Langsdorffia indica* be referable to it, and if the original *Langsdorffia janeirensis* is really destitute of the glands that are intermingled with the female flowers of the other, *Cynopsole* may still be kept up for the eastern species.

I may here remark that the ovary and style represented by Forster agree tolerably well with those observed in Dr. Wight's plant; that Forster, as appears from his manuscripts quoted by Richard, was doubtful if what he saw was an ovarium, or that it was one-celled, and that he had seen neither pericarp nor seed; from which it may be inferred that the female flowers observed were in appearance equally imperfect with those of *Langsdorffia*. It appears, however, from Blume's generic character (en. pl. Jav. i. p. 86) that he had at last ascertained them to be perfect, and that the fruit is crustaceous and one-seeded.

V.—On a new Species of British Fish (*Motella cimbria*). By

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[With a Plate.]

MOTELLA CIMBRIA*, the Four-bearded Rockling.

Specific characters.—Snout with three barbules, and one on the chin. Plate III.

* *Gadus cimbrius*, Linnæus.

Description.—From a specimen 14 inches in length. Form closely resembling that of the five-bearded rockling, but the length of the head is somewhat greater compared to that of the body; body elongated, rounded in front, compressed behind, tapering from the vent to the caudal extremity, greatest depth less than the length of the head. Head one-sixth of the entire length, caudal fin included, slightly depressed; snout blunt, projecting considerably beyond the under jaw; eye large, of an oval form, placed high up, and about its own length from the point of the snout; operculum rounded, oblique; gill-opening large; gape wide; maxillary extending in a line with the posterior margin of the orbit; *teeth* sharp, and fine, situated in two rows on the under jaw, and in five rows on the upper, a few are also placed in a cluster on the anterior part of the vomer; *barbules* four, one a little in front of each nostril, one at the extremity of the upper lip, and one on the chin; tongue fleshy, smooth, and without teeth. Fins, first dorsal obsolete, scarcely discernible, commencing over the operculum, and terminating a little in front of the second dorsal, composed of a number of short, fine, capillary rays, of which the first is the largest, presenting an appearance, according to Linnæus, of the letter T, but this latter character I was unable to recognise in the present example, owing to that ray having been somewhat destroyed previously to the fish coming into my possession; second dorsal taking its origin in a line over the ends of the pectorals, and terminating a little in advance of the caudal, the anterior portion nearly of equal height, the rays in the posterior half more sensibly increasing in length to the last but four, from thence rapidly diminishing, the first ray simple, the rest branched; anal commencing in a line under the twelfth ray of the second dorsal, and ending under the last ray but three of the same fin, in form similar to the second dorsal, but the rays scarcely more than one half the length, the first ray simple, the rest branched; caudal rounded at the extremity, the lengths of the middle rays equalling the space between the first and twelfth rays of the anal, the lateral rays simple; ventrals jugular, the second rays the longest, about two-thirds the length of the pectoral; pectorals rounded at the extremities, equalling the length of

the caudal, the first rays stout and simple, the rest branched. The fin-rays in number are

1st D. 50; 2nd D. 50; P. 16; V. 5; A. 43; C. 20;

Vert. 52.

Scales small, smooth, and adherent, covering the head, body, and membranes of the dorsal, caudal and anal fins; lateral line distinct, formed by a number of oval depressions placed at intervals from each other, commencing over the operculum, taking a bend under the ninth, tenth, and eleventh rays of the second dorsal fin, from thence running straight to the middle ray of the caudal. Colours, back and sides of a greyish brown, belly dirty white, second dorsal fin edged with white, which is more apparent towards the caudal end; upper half of the caudal fin tipped with white; pectorals, caudal and lower parts of the dorsal, dark brown approaching to black; anal and ventrals dusky.

Two well-known species of *Motella* are frequently met with on our coast, the *Motella quinquecirrata* and the *Motella vulgaris*; but I am not aware of the *Motella cimbria* (*Gadus cimbrius* of Linnæus) having previously been noticed as a British fish. It was found in June last, a little to the east of Inchkeith, on a haddock line baited with muscles, and sent me by the fishermen of Newhaven, as being the only fish of the kind they had ever met with. From its general appearance, they at once recognised it to be closely allied to the five-bearded rockling (*Motella quinquecirrata*), a common species throughout the coast, but on comparison the differences between them were obvious; and although the two fishes do disagree in some particulars, yet it is difficult to point out accurately and satisfactorily, to those who are not in the habit of handling them, what these particulars are. Some authors, placing no dependence as a character on the numbers of barbules on the snout, consider the five-bearded rockling and the three-bearded rockling as mere varieties; but this is not admitted either by Mr. Yarrell or by Mr. Jenyns, who very justly consider them as deserving of a place as distinct species in their valuable works on British Ichthyology. The four-bearded rockling, according to Linnæus, occurs in the Atlantic and Norway seas, and is distinguished by the first ray of the anterior dorsal fin pre-

senting the form of the letter T. On dissecting the specimen I examined, I found the stomach filled with shrimps and small crabs: the cæcal appendages were few in number; the roe was large, the ova small and numerous, and apparently in a fit state to be deposited. It is probable that the habits of this fish are similar to those of the other species, but from its rarity it is difficult to determine.

The *Motella cimbria* differs from *Motella quinquecirrata* in the following respects:—in the snout having but three barbules; the head one-sixth of the whole length; the teeth sharp and slender, placed in two rows on the under jaw; the eye large, of an oval form; the snout much produced; the gape wide; from the point of the snout to the posterior extremity of the maxillary, from thence to the origin of the pectoral, equal; the lateral line very distinct; the tips of the upper half of the caudal rays white; the second ray of the ventral fin but slightly produced; the rays in the anterior half of the second dorsal nearly double the lengths of those of the anal; whereas in *M. quinquecirrata* the snout is furnished with four barbules; the head one-sixth the length as far as the base of the caudal fin; the teeth, blunt and stout, placed in three rows on the under jaw; the eye small, nearly circular; the snout but slightly produced; the gape rather small; from the point of the snout to the posterior extremity of the maxillary, from thence to the origin of the ventral, equal; the lateral line very indistinct; the caudal fin of a uniform brown; the second ray of the ventral fin much produced; the rays in the anterior half of the second dorsal about equal the lengths of those of the anal.

The *Motella cimbria* differs from *Motella vulgaris* in the snout being produced, and furnished with three barbules; the teeth small, fine and slender, all nearly of equal length and size; the anal fin with forty-three rays; the body without spots; whereas in *M. vulgaris* the snout projects but slightly, and is furnished with only two barbules; the teeth irregular, long and stout, with small ones at the base, closely arranged in many rows; the anal fin with fifty rays; the body with a number of large dusky spots. The form and arrangement of the teeth in this species are very striking.